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09/538,082	03/29/2000	Jukka Kinnunen	297-009349-US(PAR)	5885
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Clarence A Green			VUONG, QUOCHIEN B	
Perman & Gree 425 Post Rd	n LLP		ART UNIT	PAPER NUMBER
Fairfield, CT	06430		2685	11
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Please find below and/or attached an Office communication concerning this application or proceeding.

		Application No.	Applicant(s)				
Office Action Summary		09/538,082	KINNUNEN ET AL.				
		Examiner	Art Unit				
		Quochien B Vuong	2685				
Period fo	The MAILING DATE of this communicati	on appears on the cover sheet w	ith the correspondence address	-			
A SH THE - Exte after - If the - If NO - Failu Any	ORTENED STATUTORY PERIOD FOR MAILING DATE OF THIS COMMUNICAT nsions of time may be available under the provisions of 37 SIX (6) MONTHS from the mailing date of this communicate period for reply specified above is less than thirty (30) day a period for reply is specified above, the maximum statutory ire to reply within the set or extended period for reply will, be treply received by the Office later than three months after the patent term adjustment. See 37 CFR 1.704(b).	FION. CFR 1.136(a). In no event, however, may a tion. s, a reply within the statutory minimum of thi y period will apply and will expire SIX (6) MO y statute, cause the application to become A	reply be timely filed rty (30) days will be considered timely. NTHS from the mailing date of this communication. BANDONED (35 U.S.C. § 133).				
Status							
1)	Responsive to communication(s) filed or	1					
2a)□	•	This action is non-final.					
3)□	Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under <i>Ex parte Quayle</i> , 1935 C.D. 11, 453 O.G. 213.						
Disposit	ion of Claims						
5)□ 6)⊠ 7)⊠	Claim(s) <u>1-30</u> is/are pending in the appli 4a) Of the above claim(s) is/are w Claim(s) is/are allowed. Claim(s) <u>1-14,17,18 and 21-29</u> is/are rej Claim(s) <u>15,16,19,20 and 30</u> is/are object Claim(s) are subject to restriction	ected.					
Applicat	ion Papers						
,	The specification is objected to by the Ex The drawing(s) filed on is/are: a)[Applicant may not request that any objection	accepted or b) objected to the drawing(s) be held in abeya	nce. See 37 CFR 1.85(a).				
11)	Replacement drawing sheet(s) including the The oath or declaration is objected to by						
Priority (under 35 U.S.C. § 119						
a)	Acknowledgment is made of a claim for f All b) Some * c) None of: 1. Certified copies of the priority doc 2. Certified copies of the priority doc 3. Copies of the certified copies of the application from the International See the attached detailed Office action fo	uments have been received. uments have been received in a ne priority documents have been Bureau (PCT Rule 17.2(a)).	Application No n received in this National Stage	•			
2) Notice 3) Infor	ot(s) ce of References Cited (PTO-892) ce of Draftsperson's Patent Drawing Review (PTO-9 ce of Draftsperson's Patent Drawing Review (PTO-9 cer No(s)/Mail Date 6,7,10	Paper No	Summary (PTO-413) (s)/Mail Date Informal Patent Application (PTO-152) 				

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DETAILED ACTION

Priority .

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statements (IDS) submitted on 04/21/00, 05/12/00, 07/24/00, 12/21/00, 08/06/02, and 10/23/are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Claim Rejections - 35 USC § 112

- The following is a quotation of the second paragraph of 35 U.S.C. 112:
 The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
- 4. Claims 3, 4, 23, and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "... the detected bit error ratio of the received signal,..." in claim 3, line 4. There is insufficient antecedent basis for this limitation in the claim.

It is suggested "the detected bit error ratio" be changed to --a detected bit error ratio--.

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Claim 4 recites the limitation "... **the** frame erasure ratio of the received signal,..." in claim 4, line 4. There is insufficient antecedent basis for this limitation in the claim.

It is suggested "the frame erasure ratio" be changed to --a frame erasure ratio--.

Claim 23 recites the limitation "a parameter describing **the location** of the mobile station" in claim 23, lines 1-2. There is insufficient antecedent basis for this limitation in the claim.

It is suggested "the location" be changed to --a location--.

Claim 29 recites the limitation "data describing **the location** of the mobile station" in claim 29, line 2. There is insufficient antecedent basis for this limitation in the claim.

It is suggested "the location" be changed to --a location--.

Double Patenting

5. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer <u>cannot</u> overcome a double patenting rejection based upon 35 U.S.C. 101.

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rejection.

6. Claim 2 is rejected under 35 U.S.C. 101 as claiming the same invention as that of claim 1 of prior U.S. Patent No. 6,687,499. This is a double patenting

Claim 2 of the pending application is identical to claim 1 of prior U.S.

Patent No. 6,687,499, since both recite the same method for testing the functioning of downlink data communication in a mobile station equipped for receiving a signal in the downlink direction and for sending a signal the uplink direction, the method comprising the steps of: receiving a test signal in the downlink direction, generating a pseudorandom bit sequence at the mobile station in order to produce a known form of the test signal; comparing the received test signal to the known form of the test signal, producing and temporarily storing information about errors which were detected in the received test signal during the comparing step; and sending in the uplink direction a signal representing the stored information about errors.

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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8. Claims 1, 3-8, 12, 13, and 24-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 and 10-14 of U.S. Patent No. 6,687,499. Although the conflicting claims are not identical, they are not patentably distinct from each other because:

Regarding claim 1, the claim 1 of U.S. Patent No. 6,687,499 encompasses all limitations including a method for testing the functioning of downlink data communication in a mobile station equipped for receiving a signal in the downlink direction and for sending a signal the uplink direction, the method comprising the steps of: receiving a test signal in the downlink direction, comparing the received test signal to a known form of the test signal, producing and temporarily storing information about errors which were detected in the received test signal during the comparing step; and sending in the uplink direction a signal representing the stored information about errors.

Regarding claim 3, the claim 2 of U.S. Patent No. 6,687,499 encompasses all limitations including the step of producing and temporarily storing information about errors detected in the received test signal during the comparing step comprises the step of producing and temporarily storing information about the detected bit error ratio of the received signal, and the step of sending in the uplink direction a signal representing the stored information about errors comprises the step of sending in the uplink direction a signal representing the detected bit error ratio.

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Regarding claim 4, the claim 3 of U.S. Patent No. 6,687,499 encompasses all limitations including wherein the step of producing and temporarily storing information about errors detected in the received test signal during the comparing step comprises the step of producing and temporarily storing information about the frame erasure ratio of the received signal, and the step of sending in the uplink direction a signal representing the stored information about errors comprises the step of sending in the uplink direction a signal representing the detected frame erasure ratio.

Regarding claim 5, the claim 4 of U.S. Patent No. 6,687,499 encompasses all limitations including the steps of: receiving a command of a certain first protocol level in the downlink direction, in response to the received command, setting the mobile station into a test mode where no notification about an established bi-directional communication link is sent to protocol levels higher than said first protocol level.

Regarding claim 6, the claim 5 of U.S. Patent No. 6,687,499 encompasses all limitations including wherein the first protocol level is a Layer 3 RR level.

Regarding claim 7, the claim 6 of U.S. Patent No. 6,687,499 encompasses all limitations including wherein in a mobile station equipped for converting a downlink signal to baseband and for demodulating, decrypting and channel decoding the signal converted to baseband, the step of comparing the received test signal to a known form of the test signal is performed after demodulation and decryption but prior to channel decoding.

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Regarding claim 8, the claim 7 of U.S. Patent No. 6,687,499 encompasses all limitations including wherein in a mobile station equipped for converting a downlink signal to baseband and for demodulating, decrypting and channel decoding the signal converted to baseband, the step of comparing the received test signal to a known form of the test signal is performed after demodulation, decryption and channel decoding.

Regarding claim 12, the claim 10 of U.S. Patent No. 6,687,499 encompasses all limitations including a method for testing the functioning of downlink data communication in a cellular radio system, comprising the steps of: sending a test signal from a base station to at least one mobile station, receiving the test signal sent by the base station at a mobile station, comparing the test signal received at the mobile station to a known form of the test signal, producing and temporarily storing at the mobile station information about errors which were detected in the received test signal during the comparing step, sending information representing the stored information about errors from the mobile station to a base station, receiving the information sent by the mobile station at a base station, and storing the information received by the base station in the cellular radio system.

Regarding claim 13, the claim 11 of U.S. Patent No. 6,687,499 encompasses all limitations including the steps of: sending a test signal from a large number of base stations to a large number of mobile stations, receiving information sent by a large number of mobile stations at a large number of base stations, storing the information received by the base stations at a control station

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of the cellular radio system, and producing, at the control station, information representing the quality of downlink data communication in the cellular radio system.

Regarding claim 24, the claim 12 of U.S. Patent No. 6,687,499 encompasses all limitations including a mobile station of a cellular radio system, comprising: reception means for receiving a signal in the downlink direction, transmission means for sending a signal in the uplink direction, comparison means for comparing a received test signal to a known form of the test signal, means for producing and temporarily storing information about errors which were detected in the received test signal by said comparison means, and uplink sending means for sending in the uplink direction a signal representing the stored information about errors.

Regarding claim 25, the claim 13 of U.S. Patent No. 6,687,499 encompasses all limitations including downconversion means for converting received downlink data to baseband, a demodulator for demodulating the data converted to baseband, decrypting means for decrypting the demodulated data, a channel decoder for channel decoding the demodulated and decrypted data, a channel encoder for channel encoding uplink data, encrypting means for encrypting the channel encoded uplink data, a modulator for modulating the encrypted channel encoded uplink data onto baseband oscillations, and upconversion means for converting the modulated baseband oscillations onto a transmission frequency for transmitting, wherein said comparison means, said means for producing and temporarily storing information about errors and said

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uplink sending means are arranged to establish a coupling from the output of the decrypting means to the input of the encrypting means.

Regarding claim 26, the claim 14 of U.S. Patent No. 6,687,499 encompasses all limitations including: downconversion means for converting received downlink data to baseband, a demodulator for demodulating the data converted to baseband, decrypting means for decrypting the demodulated data, a channel decoder for, channel decoding the demodulated and decrypted data, a channel encoder for channel encoding uplink data, encrypting means for encrypting the channel encoded uplink data, a modulator for modulating the encrypted channel encoded uplink data onto baseband oscillations, and upconversion means for converting the modulated baseband oscillations onto a transmission frequency for transmitting, wherein said comparison means, said means for producing and temporarily storing information about errors and said uplink sending means are arranged to establish a coupling from the output of the channel decoder to the input of the channel encoder.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35U.S.C. 102 that form the basis for the rejections under this section made in thisOffice action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an

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application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1, 3, 12-14, 21, 22, 24, and 27 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Nakamura (US 5,943,617).

Regarding claim 1, Nakamura (figures 2-4) discloses a method for testing the functioning of downlink data communication in a mobile station (test terminal 11) equipped for receiving a signal in the downlink direction and for sending a signal the uplink direction, the method comprising the steps of: receiving a test signal in the downlink direction (column 5, lines 34-55), comparing the received test signal to a known form of the test signal (column 6, lines 1-4), producing and temporarily storing information about errors which were detected in the received test signal during the comparing step (column 6, lines 4-12, the error rate is either inherently or obviously stored temporarily in the test terminal before being transmitted to the testing device); and sending in the uplink direction a signal representing the stored information about errors (column 6, lines 13-22).

Regarding claim 3, Nakamura discloses wherein the step of producing and temporarily storing information about errors detected in the received test signal during the comparing step comprises the step of producing and temporarily storing information about the detected bit error ratio of the received signal (column 6, lines 4-12), and the step of sending in the uplink direction a signal representing the stored information about errors comprises the step of sending in the uplink direction a signal representing the detected bit error ratio (column 6, lines 13-22).

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Regarding claim 12, Nakamura (figures 2-4) discloses a method for testing the functioning of downlink data communication in a cellular radio system, comprising the steps of: sending a test signal from a base station to at least one mobile station (column 5, lines 29-33), receiving the test signal sent by the base station at a mobile station (column 5, lines 34-55), comparing the test signal received at the mobile station to a known form of the test signal (column 6, lines 1-4), producing and temporarily storing at the mobile station information about errors which were detected in the received test signal during the comparing step (column 6, lines 4-12, the error rate is either inherently or obviously stored temporarily in the test terminal before being transmitted to the testing device), sending information representing the stored information about errors from the mobile station to a base station (column 6, lines 13-22), receiving the information sent by the mobile station at a base station, and storing the information received by the base station in the cellular radio system (column 6, lines 16-22).

Regarding claim 13, Nakamura discloses the steps of: sending a test signal from a large number of base stations to a large number of mobile stations, receiving information sent by a large number of mobile stations at a large number of base stations, storing the information received by the base stations at a control station of the cellular radio system, and producing, at the control station, information representing the quality of downlink data communication in the cellular radio system (column 4, lines 25-36).

Regarding claim 14, Nakamura discloses wherein for measuring the general quality of data transmission in a cellular radio system comprising base

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stations and mobile stations it comprises the steps of: generating a test signal which is transmitted, via a base station of the cellular radio system, to a mobile station of the cellular radio system (column 5, lines 29-33); generating and storing at the mobile station information describing the occurrence of errors in the test signal received by the mobile station (column 6, lines 4-12); transmitting from the mobile station to the base station of first error message describing the occurrence errors within a given block of data of the test signal received by the mobile station (column 6, lines 13-22); and transmitting from the mobile station to a certain control unit a second error message describing the first error message received from the mobile station of the cellular radio system (column 6, lines 16-22).

Regarding claim 21, Nakamura discloses the mobile station transmits to the base station the value of the average bit error ratio or frame erasure ratio within a given block of data as detected by the mobile station (column 6, lines 5-16).

Regarding claim 22, Nakamura discloses the data received from the mobile station is transmitted as such to the control unit (column 6, lines 16-22).

Regarding claim 24, Nakamura (figures 2-4) discloses a mobile station (11) of a cellular radio system, comprising: reception means (16) for receiving a signal in the downlink direction, transmission means(17) for sending a signal in the uplink direction, comparison means for comparing a received test signal to a known form of the test signal (column 6, lines 1-4), means for producing and temporarily storing information about errors which were detected in the received

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test signal by said comparison means (column 6, lines 4-12, the error rate is either inherently or obviously stored temporarily in the test terminal before being transmitted to the testing device), and uplink sending means for sending in the uplink direction a signal representing the stored information about errors (column 6, lines 13-22).

Regarding claim 27, Nakamura (figures 2-4) discloses a system for measuring the general quality of data transmission in a cellular radio system, the system comprising a base station subsystem (testing device 15) and a mobile station (testing terminal 11), comprising: in the base station subsystem, means for generating a test signal and for transmitting it via a base station of the cellular radio system to the mobile station of the cellular radio system (column 4, lines 47-58); in the mobile station, means for generating and storing data describing the occurrence of errors in the test signal received by the mobile station (column 6, lines 4-12, the error rate is either inherently or obviously stored temporarily in the test terminal before being transmitted to the testing device), and means for transmitting a first error message to the base station subsystem, the first error message describing the occurrence of errors in a certain block of data in the test signal received by the mobile station (column 6, lines 13-20); and a control unit for collecting such error data that describes the error messages received by the base station subsystem of the cellular radio system from the mobile stations (column 6, lines 20-22).

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Claim Rejections - 35 USC § 103

- 11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
- 13. Claims 2, 17, 18, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of Chen et al. (US 5,726,991).

Regarding claim 2, 17, 18, and 28, Nakamura fails to disclose the step of generating a pseudorandom bit sequence at the mobile and the base station subsystem in order to produce the known form of the test signal, and comparing at the mobile station the self-generated pseudorandom bit sequence with the received test signal. However, Chen et al. disclose generating a pseudorandom bit sequence at both transmitter and receiver, and comparing the self-generated

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pseudorandom bit sequence with the received test signal (column 2, lines 31-41). Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to adapt the teaching of Chen et al. to the method of Nakamura in order to perform a more precise test by comparing the identical bit test pattern.

14. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of Wing (US 5,570,373).

Regarding claim 4, Nakamura fails to specifically disclose the error information is a frame erasure ratio. However, Wing disclose calculating the frame erasure ratio as error information (column 10, lines 1-11). Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to adapt the teaching of Wing to the method of Nakamura to use frame erasure ratio as error information as system design choice of error form.

15. Claims 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of Yutaka et al. (JP 9-205675, the partial English translation submitted by the Applicant)

Regarding claim 9, Nakamura (figures 2-4) discloses a method for testing the functioning of data communication in a communication connection between a device equipped for sending a signal in the downlink direction and for receiving a signal in the uplink direction and a mobile station equipped for receiving a signal

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in the downlink direction and for sending a signal in the uplink direction, comprising the steps of: generating a first test sequence; sending the first test sequence in the downlink direction to the mobile station (column 4, lines 47-58); producing at the mobile station a third test sequence corresponding to the first test sequence in order to detect differences between the first and the third test sequences (column 5, lines 1-6; column 6, lines 1-4); and sending in the uplink direction from the mobile station information representing the differences detected between the first and third test sequences (column 6, lines 4-20). Nakamura fails to disclose generating errors in a known way in the first test sequence to produce a second test sequence. However, Yutaka et al. disclose generating a known error pattern for testing, and comparing the known error pattern with a generated random number pattern (see paragraph [0102]). Therefore, it would have been obvious for one having ordinary skill in the art at the time the invention was made to adapt the teaching of Yutaka et al. to the method of Nakamura as a system design preference using a known error pattern for testing.

Regarding claims 10 and 11, Nakamura and Yutaka disclose the method of claim 19. In addition, Nakamura discloses wherein the step of sending the test sequence in the downlink direction to the mobile station comprises the step of sending the test sequence from a test equipment of a base station to the mobile station under testing, and the step of sending in the uplink direction from the mobile station information representing the error detection comprises the step of

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sending the information from the mobile station under testing to the test equipment or the base station (column 5, lines 51-55; and column 6, lines 4-22).

Allowable Subject Matter

16. Claims 15, 16, 19, 20, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 15 and 16, Nakamura discloses the method of claim 14, however, Nakamura fails to teach the test signal is a pilot signal or a synchronization sequence in a downlink burst transmitted by the base station.

Regarding claims 19 and 20, Nakamura discloses the method and system of claim 14. However, Nakamura fails to teach a location message is transmitted with the first error message from the mobile to the base station.

Regarding claim 30, Nakamura discloses the method and system of claim 27. However, Nakamura fails to teach a location of the mobile is transmitted to the control unit with the error message.

17 Claims 23 and 29 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

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Regarding claim 23, Nakamura discloses the method and system of claim 14. However, Nakamura fails to teach a location of the mobile is transmitted to the control unit with the error message.

Regarding claim 29, Nakamura discloses the method and system of claim 27. However, Nakamura fails to teach a location message is transmitted with the first error message from the mobile to the base station.

Conclusion

18. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA 22202. Sixth Floor (Receptionist).

Any inquiry concerning this communication from the examiner should be directed to Quochien B. Vuong whose telephone number is (703) 306-4530. The examiner can normally be reached on Monday through Friday from 9:30 a.m. to 6:00 p.m. EST.

If attemps to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban, can be reached on (703) 305-4385.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Customer Service whose telephone number is (703) 306-0377.

QUOCHIEN B. VUONG
PRIMARY EXAMINER

Quochien B. Vuong

Mar. 31, 2004.